SCOPE OF WORK BASIC CONTRACT

NORTH I-25 PEL STUDY

CONTRACT TYPE

□ Specific Rate of Pay
■ Cost Plus Fixed Fee
□ Lump Sum

CONTRACT DATE: Anticipated June 1, 2011

PROJECT NUMBER: C 0253-219 (18215)

PROJECT LOCATION: I-25 between US 36 and SH-7

PROJECT CODE: 18215

THE COMPLETE SCOPE OF WORK INCLUDES THIS DOCUMENT (ATTACHED TO THE CONTRACT FOR CONSULTANT SERVICES) AND, IF REFERENCED,

SECTION 1 PROJECT SPECIFIC INFORMATION

SECTION 2 PROJECT MANAGEMENT AND COORDINATION

SECTION 3 EXISTING FEATURES

SECTION 4 REFERENCE ITEMS NEEDED BY THE CONSULTANT

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SECTION 6 STUDY WORK TASK DESCRIPTIONS

APPENDIX

Comments regarding this scope may be directed to:

David Wells

CDOT Agreements Office,

(303)757-9400

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SECTION 1
PROJECT SPECIFIC INFORMATION

1 PROJECT BACKGROUND

CDOT has decided to hire a consultant to provide an improved overview and understanding of Interstate 25 (I-25). The selected consultant team (hereinafter referred to as the Consultant) shall evaluate the existing and future (2035) operating conditions and features of I-25. In this study, the consultant shall produce a Planning Environmental Linkage (PEL) Report with the goal of identifying existing conditions, anticipated problem areas, and develop/evaluate a range of multimodal improvements to reduce congestion and improve operations and safety of the highway within the study area.

The study area for this project includes Interstate 25 from U.S. 36 (MP 217.006) to State Highway 7 (MP 229.107).

Descriptions of the consultant responsibilities and duties are further described in this document.

I-25 between U.S. 36 and State Highway (SH)7 is one of the most congested stretches of interstate in the Denver Metro Area. This north-south interstate currently provides three travel lanes in each direction within the study area. CDOT data indicates the average daily traffic (ADT) along this stretch of I-25 is as high as 174,000 vehicles. I-25 has full interchange connectors with U.S. 36, 84th Ave, Thornton Pkwy, 104th Ave, 120th Ave, 136th Ave, 144th Ave, E-470, and SH-7.

The North I-25 Environmental Impact Statement (EIS) is currently being completed from the Fort Collins/Wellington area south to downtown Denver. The EIS recommends adding managed lanes on I-25 from Fort Collins to Denver and adding general purpose lanes north of SH-7. The north Denver metro area communities would like to investigate the more localized congestion in the general purpose lanes and define a range of improvements needed to reduce congestion, and improve operations and safety of this section of I-25 as well as that of the interchange connectors.

CDOT will award one contract as a result of this RFP.

2 PROJECT GOALS

The objective of this Project is to work with and gain support of stakeholders to analyze and develop a range of improvements to reduce congestion and improve operational performance and safety of I-25 between U.S. 36 and SH-7. An Executive Committee will be formed of elected officials or senior-level staff appointed by the respective local officials from the affected jurisdictions and oversight agencies. Also a Technical Advisory Committee will be formed to include technical staff from the affected jurisdictions/support agencies/regional partners. The Executive Committee will be briefed by the Technical Advisory Committee and the Project Team at milestones throughout the project. More information about the roles and responsibilities of the Executive and Technical Advisory Committees can be found in Project Coordination of Section 2.

The objectives of the plan are:

1. To identify the multi-modal goals, objectives and visions of various jurisdictions for the corridor.
2. Complete the study in a manner in accordance with the FHWA Planning Environmental Linkage (PEL) process. This will include:

- Public Outreach
- Outreach to local governments and special interest groups affected by or within the study area
- Outreach to State and Federal Resource agencies
- Documentation to NEPA standards so information developed in this study can be appended or referenced in a final NEPA document
- Assist CDOT in completing the PEL questionnaire for submittal to FHWA. This questionnaire has been included in Reference B.

3. Identify existing and future problem areas in the corridor from a congestion, operational, and safety perspective.
4. Assist CDOT, Public Agencies, and resource agencies in identifying issues in the corridor of importance to each respective agency
5. Recommend a set of phased plan improvements to
   a) optimize corridor operations
   b) decrease congestion and improve travel time
   c) improve safety
6. Establish a priority list for planned improvements
7. Develop and analyze conceptual costs of improvements

In order to meet these objectives the Study shall:

a. Utilize information from the North I-25 EIS

b. Collect and consolidate all existing information on the corridor

c. Develop an existing traffic conditions report to identify current bottlenecks and compare future travel demands to existing corridor capacity to identify the kinds of travel patterns that are inadequately served.

d. Identify operational hotspots and develop improvements and evaluate alternatives based on screening criteria that work with the preferred ultimate alternative for the corridor

e. Document the travel markets that use the transportation system. Travel markets may be defined in terms of:

   - Geographic locations of the origins and destinations
   - Land Use characteristics
   - Trip purpose
   - Length of trip

f. Meet with local agencies, regional partners, special interests and the public to discuss their goals, concerns, and ideas. Based on these meetings, the Consultant will work with the Technical Advisory Committee to develop support among the team and determine what alternatives are to be studied.

g. Provide an easy-to-read pictorial summary guide that helps evaluate the pros and cons of each alternative in a creative and meaningful way.

3 WORK DURATION

The time period for the work described in this scope is approximately 365 calendar days.

4 WORK PRODUCT

The Consultant work products are:

A. Reports
   a) Existing Conditions Report
   b) Corridor PEL Study Report
B. Project Coordination
C. Interagency coordination
D. Schedules
E. Meeting Minutes
F. Task Work Products as described in Section 6
G. Public Involvement Coordination

Detailed work product requirements are described in the following sections. All work required to complete this Scope of Work requires the use of English Units.

5 WORK PRODUCT COMPLETION

All submittals must be accepted by the CDOT Contract Administrator or designee.

6 SCOPE OF WORK ORGANIZATION

This draft scope of work has been reviewed by the Department and reflects a plan of approach based on the known goals. One factor determining the selection of a consultant is the ability of that consultant to analyze the project goals, evaluate the work elements, and formulate a work plan. This process may produce new approaches or modification to the project work elements. Because of that, all consultants should be aware the Final Scope of Work for the project will be produced with input from the selected Consultant.

SECTION 2
PROJECT MANAGEMENT AND COORDINATION

1 CDOT CONTACT

The Contract Administrator for this project is: Jay Hendrickson, Region-6, North Engineering.
Regional Transportation Director - Reza Akhavan
Active day-to-day administration of the contract will be delegated to:

A. Name: Andy Stratton.
B. Title: Professional Engineer I.
C. Address: 4670 Holly Street, Unit D.
D. Telephone: (303) 398-6746.
E. Fax: (303) 398-6781.

2 PROJECT COORDINATION

Coordination may be required with the following:

A. Lead Agencies

a) CDOT Region 6
b) CDOT Region 4
c) Federal Highway Administration (FHWA)
d) Federal Transit Administration

B. Cities

a) Brighton
b) Broomfield
c) Commerce City
d) Dacono
e) Denver
f) Erie
g) Firestone
h) Frederick
i) Longmont
j) Northglenn
k) Thornton
l) Westminster

C. Counties

a) Adams
b) Boulder
c) Broomfield
d) Denver
e) Weld

D. Regional Partners

a) Adams County Economic Development Corporation
b) Adams County Movers
c) Colorado Motor Carriers Association
d) Metro North Chamber
e) North Area Transportation Alliance
f) Denver Metro Chamber of Commerce
g) Regional Transportation District (RTD)
h) Denver Regional Council of Governments (DRCOG)
i) Urban Drainage and Flood Control District (UDFDC)
j) State and Federal Resource Agencies

E. Executive Committee shall be briefed at milestones throughout the project by the Technical Committee and Project Team. The Executive Committee is not intended to be a decision making entity. It will be formed of elected officials or senior-level staff appointed by the respective local officials from the affected jurisdictions and oversight agencies.

F. Technical Advisory Committee shall be included in monthly task force meetings and work with the Project Team in the decision making process. The Technical Advisory Committee will be formed to include technical staff from the affected jurisdictions/support agencies/regional partners.

SECTION 3
EXISTING FEATURES

1 STRUCTURES

See Field Log of Structures

2 UTILITIES

Contact Utility Notification Center of Colorado (U.N.C.C.) at 1-800-922-1987.

3 IRRIGATION DITCHES TBD

4 RAILROADS TBD

Note: The above is a list of the known features in the area. It should not be considered as complete. The Consultant should be alert to the existence of other possible conflicts.

SECTION 4
REFERENCE ITEMS NEEDED BY THE CONSULTANT

1 CURRENT CDOT MANUALS, SPECIFICATIONS, STANDARDS, ETC.

Electronic files of applicable standards. All CDOT forms specified in this document. The consultant shall obtain and utilize the most recent CDOT adopted references including standards and specifications, manuals and software or as directed by the CDOT/PM.

SECTION 5
GENERAL INFORMATION

1 NOTICE TO PROCEED

Work will not commence until the written Notice-to-Proceed is issued by the State with certification from the Consultant that the work will be completed within the allotted time. Work may be required, night or day, on weekends, on holidays, or on split shifts. CDOT must concur in time lost reports prior to the time lost delays are subtracted from time charges. Subject to CDOT prior approval the time charged may exclude the time lost for:

A. Reviews and Approvals.

B. Response and Direction

2 PROJECT COORDINATION

A. Routine Working Contact

The routine working contact will be between the CDOT Project Manager (CDOT/PM) and the Consultant Project Manager (C/PM) as defined in Appendix C.

B. Project Manager Requirements

Each Project Manager will provide the others with the following:

a. A written synopsis or copy of their respective contacts (both by telephone and in person) with others.

b. Copies of pertinent written communications.

3 ROUTINE REPORTING AND BILLING

The Consultant will provide the following on a routine basis:

A. Coordination

Coordination of all contract activities by the C/PM

B. Periodic Reports and Billings

The periodic reports and billings required by CDOT Procedural Directive 400.2 (Monitoring Consultant Contracts), including monthly drawdown schedules.

C. Minutes of all Meetings:

The minutes will be completed and provided to the CDOT/PM within five (5) working days after the meeting. When a definable task is discussed during a meeting, the minutes will identify the "Action Item", the party responsible for accomplishing it, and the proposed completion date.

D. General Reports and Submittals

In general, all reports and submittals must be approved by CDOT prior to their content being utilized in follow-up work effort.

4 PERSONNEL QUALIFICATIONS

The Consultant Project Manager (C/PM) must be approved by the CDOT Contract Administrator. Certain tasks must be done by Licensed Professional Engineers (PE) or Professional Land Surveyors (PLS) who are registered with the Colorado State Board of Registration for Professional Engineers and Land Surveyors. National Institute for Certification in Engineering Technology (NICET) or other certifications may be required for project inspectors and testers.

All tasks assigned to the Consultant must be conducted by a qualified person on the Consultant team. The qualified person is a professional with the necessary education, certifications (including registrations and licenses), skills, experience, qualities, or attributes to complete a particular task.

5 CDOT COMPUTER/SOFTWARE INFORMATION

The consultant shall utilize the most recent CDOT adopted software. The primary software used by CDOT is as follows:

A. Earthwork	***InRoads***
B. Drafting/CADD	***InRoads and Microstation with CDOT's formatting ,configurations and standards.***
C. Survey	***CDOT TMOSS, InRoads***

D. Geometry	***CDOT COGO (Coordinate Geometry)***
E. Bridge	***CDOT Staff Bridge software shall be used in either design or design check***
F. Estimating	***Transport (an AASHTO sponsored software) as used by CDOT***
G. Specifications	***Microsoft Word***
H. Traffic Operations Analysis	***Synchro/SimTraffic & Vissim, Dynus-T, DYNASMART***
I. Reports	***Adobe Acrobat 7.0 Professional***

6 COMPUTER DATA COMPATIBILITY

CDOT presently utilizes a data format which Consultants shall be required to use for submitting survey, photogrammetry and the design data: Inroads

The data format used by the Consultant to submit surveying and photogrammetric data shall be as determined by the CDOT/PM in coordination with the respective Region PLS. The data format for submitting design computer files shall be compatible with the latest version of the adopted CDOT program. The Consultant shall immediately notify the CDOT/PM if the firm is unable to produce the desired format for any reason and cease work until the problem is resolved.

7 PROJECT DESIGN DATA AND STANDARDS

A. References:

Appendix A is a list of technical references applicable to CDOT work. The consultant is responsible for ensuring compliance with the latest CDOT adopted version of the listed references. Conflicts in criteria shall be resolved by the CDOT/PM.

B. PEL Questionnaire:

Appendix B is the PEL Questionnaire. The questionnaire is intended to act as a summary of the Planning process and ease the transition from the planning study to a NEPA analysis. This Questionnaire is reviewed and approved by FHWA at the conclusion of the PEL Study. The completed questionnaire shall be incorporated into the completed PEL Study.

SECTION 6
STUDY WORK TASK DESCRIPTIONS

This section establishes the consultant's individual task responsibility. The consultant shall maintain the ability to perform all work tasks which are indicated below, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Selected work tasks shall be assigned only after coordination and consultation with CDOT. The Consultant is also responsible for coordinating the required work schedule for those tasks accomplished by CDOT and other agencies. The Consultant should review this entire section to identify applicable material. Contact the Colorado Department of Transportation/Project Manager (CDOT/PM) if clarification is required (see Section 2.01).

The following activities of communication, consensus building, project team reviews, conceptual design, data gathering, documentation, and formal public notice should be planned by the Consultant and coordinated with the CDOT/PM. The time of their accomplishment will overlap and parallel paths of activity should be planned to finish the development phase in accordance with the shortest possible schedule. The type and number of meetings, documents, etc., will depend on the category and characteristics of the project work. A project plan shall be developed by the Consultant which satisfies the requirements of the project development. This plan must be approved by the Contract Administrator (see Section 2.01) before starting the work.

TASK 1 - PROJECT INITIATION AND CONTINUING REQUIREMENTS

The Consultant shall provide a plan for management coordination and control to ensure successful and timely completion of this study. At the beginning of work under this contract, the Consultant shall prepare a detailed work plan, including schedule and cost breakdown for each sub-task described in this scope of services.

The management plan shall establish the key decision points and let all participants know how and when they can provide input.

The management plan shall include a public participation work plan. The public participation work plan shall at a minimum include:

- Preliminary identification of critical issues and problems in need of resolution.
- Identification of Resource Agencies with an interest in the Corridor and the level of consultation required with each agency for successful completion of the study.
- Identification of community leaders, elected officials, interest groups, media and key community/business entities and/or groups.
- Identification of planned community events in the corridor that are scheduled during the PEL study that might conflict with the scheduling of public meeting dates.
- Description of participation methods, objectives, and where each fits into the schedule.
- Lists of stakeholders, elected officials, resource agencies and their respective contacts.
- A minimum of two public meetings.
- Plan for coordination with appropriate internal contacts for implementing work plan (ie PR, govt relations office)

The Consultant shall submit monthly cost and schedule reports to enable project monitoring. The contract budget and schedule shall be regarded as the baseline against which status and progress are measured and reported.

The Consultant and the CDOT Project Manager (Project Manager) shall meet at least monthly to review the cost, schedule status and progress of the work, as well as address unanticipated problems and potential solutions. The Consultant shall prepare status presentations at key milestones to update the Agencies on the status and progress of the work. The Consultant shall be responsible for preparing and keeping a record of meeting minutes. The Consultant should carefully anticipate the number of meetings that shall be necessary, as the cost of all meetings shall be included as part of the contract price. The Consultant shall prepare for and participate in these meetings, and shall provide documentation of the meetings such as presentation materials and meeting minutes.

The Consultant shall submit working and final drafts on all work products in a timely manner to allow for adequate review and revision prior to final submittal schedules. The Consultant invoices shall be prepared to show cost against major milestone tasks.

<u>TASK 1 WORK PRODUCT</u>: Project management plan, contract budget and schedule and quality control plan, monthly progress report, and payment and review milestones; presentation materials, and meeting minutes.

***NOTE*:**
For Tasks 2 and 3, the Agencies will assist the Consultant in the preparation of the different work products. For these tasks, the responsibilities of the Agencies and of the Consultant are defined.

TASK 2 - EXISTING CONDITIONS REPORT

The work product of this task is an Existing Conditions Report. The report shall:

1. Collect and consolidate existing information on this corridor of I-25. An appendix shall be created to document, in list form, the sources of the existing information. This existing information shall be used in the tasks below.
2. Document the existing transportation system in the corridor including highway through and auxiliary lanes, right-of-way and access; arterial lanes and access; transit types / service levels including station locations, routes and frequency, safety records and ridership and major concentrations of riders. The document shall also include bicycle and pedestrian facilities, planned and existing intermodal connection facilities and stations.
3. Document the travel markets that use the transportation system. Travel markets may be defined in terms of:
    - Geographic locations of the origins and destinations
    - Land Use characteristics
    - Trip purpose
    - Length of Trip
4. Perform traffic study to assess existing traffic operations and safety. Document future (2035) travel demands based on existing information along the corridor with models from DRCOG (DynasmartP/DynusT) and subsequent changes to Land Use Plans as provided by the Local Agencies. Future travel demands shall be compared to existing corridor capacity at select screen lines and inadequately served travel patterns shall be identified.
5. Identify adjacent and parallel transportation facilities which have an impact on the I-25 Corridor.
6. Identify any planned developments along the corridor.
7. Summarize current roadway features including present roadway categorization per State of Colorado State Highway Access Code, lane configurations, roadway and right-of-way widths and adjacent land ownership characteristics, building set-backs, utility and environmental concerns, and those areas of the corridor that have been identified by past CDOT Safety Assessment Reports as having safety related issues.
8. Compile existing environmental conditions of the corridor:

Conduct an environmental scan and list of critical environmental issues within the corridor that include the following tasks:
• Map environmental resources and prepare a list of environmental issues. Include, at a minimum:
– Floodways and 100-year flood plain boundaries
– Likely locations of wetlands
– Known Archaeological and Paleontological sites
– Mines
– Hazardous waste sites
– Community or public wells
– Historical buildings, sites, and districts
– Rivers and lakes (identifying any designated wild and scenic rivers)
– State and national forests
– Wildlife reserves

– Critical wildlife habitat
– Threatened and endangered species (locations or likely presence)
– Public parks
– Prime agricultural land
– Barrier effect
– Pedestrian and bicycle access
– Noise
- Air Quality
– Neighborhood/business displacement
• Identify those areas expected to require further analysis for NEPA purposes.
• Prepare an environmental scan report for CDOT and public review.
• Identify and describe any features that may require context sensitivity.

Expected Products (Results)

• An environmental scan map of key socioeconomic and environmental resources;
• A list of environmental issues within the corridor, and identification of areas that require further analysis.
• A report summarizing the results of the research of land uses and other characteristics of the region. The report should include:
– Community profile, including population, growth trends, and employment trends, for use in future forecasts
– Current land uses
– Planned land uses
– Historical and cultural buildings and site

9. Identify data gaps in the existing information once compiled. Missing information will be obtained and provided in the Existing Conditions Report to complete Task 2.

Agency Responsibilities - The Agencies will provide the Consultant with existing local land use and transportation plans. The Agencies will assist the Consultant in obtaining any other data which may be necessary in completing the existing conditions report. The Agencies will appoint one individual as their designated liaison to CDOT and the Consultant in order to better facilitate communication.

Consultant Responsibilities - The Consultant shall prepare a Corridor Conditions Assessment Report which includes all elements as described above.

TASK 2 WORK PRODUCT: Corridor Conditions Assessment Report which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings.

TASK 3 - DEVELOP A STATEMENT OF PURPOSE AND NEED AND IDENTIFY GOALS FOR THE CORRIDOR

Develop an Executive Summary containing the following:

1. Identify the visions CDOT and each jurisdiction have for the future of the corridor and points of disagreement and congruence.
2. Refer to data identified in the Existing Conditions Report regarding existing and expected deficiencies in the transportation system serving the corridor area to compile a list of system deficiencies. Where possible, locate the deficiencies on a base map for use at the public meetings.
3. Reference the list of issues that resulted from contacts with stakeholders and general knowledge of the corridor to identify a list of key needs in the corridor.
4. Prepare a preliminary list of existing and anticipated deficiencies in the corridor. The list should describe the existing or anticipated deficiencies in the transportation system and the growth or changing needs in the corridor. Prepare visual displays summarizing data compiled to date. Include key factors of the corridor including the preliminary list of deficiencies already identified.

5. Produce a written statement of purpose and need. This statement should be an "umbrella" statement for the corridor, based in identification of needs and deficiencies. The statement should reflect the context sensitivity of the corridor's communities to help reach their transportation goals by encouraging the consideration of land use, transportation, environmental and infrastructure needs in an integrated manner.
6. Identify goals for the corridor.

TASK 3 WORK PRODUCT: An executive summary which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings. The executive summary shall be incorporated into the PEL Study.

TASK 4 - CORRIDOR PEL STUDY REPORT

A Corridor PEL Study shall be prepared with the following objectives.

1. Express a common vision between CDOT and the Agencies as to the future operational functionality of the corridor both as a whole and as discrete segments.
2. Develop a set of alternatives in a multi-jurisdictional environment which:
   a) Optimize corridor operations.
   b) Decrease congestion and improve travel time.
   c) Improve safety.

   Five basic measures should be used to judge alternatives. This evaluation is intended to illuminate the issues and provide a coherent discussion prior to selecting a preferred corridor strategy.

   - Assess Compliance – This analysis should determine whether the alternative complies with the purpose and need.
   - Assess Effectiveness – This analysis should quantify how each alternative addresses deficiencies and needs as identified in Tasks 2 and 3 and its impact on the preferred alternative of the North I-25 EIS.
   - Assess Economic Feasibility – This analysis should compare the alternatives in terms of whether the benefits are commensurate with the costs. It also should consider the availability of funds for construction and operation as well as equity – the distribution of costs and benefits.
   - Assess Environmental Feasibility – This analysis should determine the impacts of each alternative on important environmental resources and feasibility regarding environmental issues and regulations. Conceptual avoidance and minimization measures should be developed following the identification of impacts and concerns.
   - Assess Goal Feasibility – This analysis should compare the feasibility of each alternative regarding conformity with local comprehensive plan goals and policies as well as the preferred alternative developed in the North I-25 EIS.

3. Recommend and prioritize improvements for the corridor that may be implemented in phases.
4. Provide an easy-to-read pictorial summary guide that helps evaluate the pros and cons of each alternative in a creative and meaningful way.
5. Present Alternatives to the Public though whatever means is agreed to in Task 1.

Consultant Responsibilities - The consultant shall coordinate with CDOT and the other jurisdictions to review the findings of the Corridor PEL Study Report and, if possible, agree on a common vision for the future of the corridor. The Consultant shall then prepare a PEL Study Report and PEL Questionnaire with the elements described above.

TASK 4 WORK PRODUCT: PEL Study Report and PEL Questionnaire which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings.

TASK 5 – PUBLIC INVOLVEMENT COORDINATION

CDOT will assist the Consultant in organizing all Stakeholder meetings and Public Meetings. The Consultant is responsible for creating and providing all materials for these meetings. It is anticipated that a minimum of two meetings between the Consultant and the Public-Stakeholders will be necessary in this Task. In addition to this, it is anticipated that numerous other contacts will need to be made with all of the public agency stakeholders, both at the staff level and the elected official level, to communicate and negotiate the stakeholders' concerns about specific problems and visions for the corridor. The Consultant shall provide the presentation aids, and help conduct the following meetings:

a) General Public Meetings (information and workshops)
   The format of these meetings will be dictated by the project and goals for the meetings. These meetings may be used to establish communications with the public, add to the "contact list", and gather information regarding local concerns. The meetings may also take the form of a work session or workshop with the affected parties.
b) Executive Committee Meetings
   These meetings are intended to disseminate project progress information to representatives of the Executive Committee at project milestones.

TASK 5 WORK PRODUCT: Presentation aids which will be used during public involvement coordination.

TECHNICAL AND PEER REVIEW

All study reports and design work products will be reviewed by the Agencies

PROJECT SCHEDULE

The contract period shall be 12 months from the date of execution of the contract.

CONTRACT COMPLETION

This Contract will be satisfied upon acceptance of the following items if applicable:

A. Project Schedule
B. All work products as described above
C. Project Progress Meeting Minutes
D. All documents found In Research
E. All Permission to Enter forms
F. Photography Products
G. Ownership Map
H. Original Field Notes
I. Completion of review of contract submittals

APPENDIX A
REFERENCES

1 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) PUBLICATIONS (using latest approved versions):

A. A Policy on Design Standards-Interstate System

B. A Policy on Geometric Design of Highways and Streets

C. Guide for Design of Pavement Structures

D. Standard Specifications for Highway Bridges

E. Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities

F. Guide for the Development of Bicycle Facilities

G. Standard Specifications for Transportation Materials and Methods of Sampling and Testing –

Part 1, Specifications and Part II, Tests

H. Highway Design and Operational Practices Related to Highway Safety

I. Roadside Design Guide

2 COLORADO DEPARTMENT OF TRANSPORTATION PUBLICATIONS (using latest approved versions):

A. CDOT Design Guide (all volumes)

B. CDOT Bridge Design Guide

C. CDOT Bridge Detailing Manual

D. Bridge Rating Manual

E. Project Development Manual

F. Erosion Control and Storm Water Quality Guide

G. Field Log of Structures

H. Cost Data Book

I. Drainage Design Manual

J. CDOT Quality Manual

K. CDOT Survey Manual

L. CDOT Field Materials Manual

M. CDOT Design Guide, Computer Aided Drafting (CAD)

N. Erosion Control and Storm water Quality Guide

O. Standard Plans, M & S Standards

P. Standard Specifications for Road and Bridge Construction and CDOT Supplemental Specifications

Q. Item Description and Abbreviations (with code number) compiled by Engineering Estimates and Marked Analysis Unit, CDOT

R. Right-of-Way Manual, Chapter 2, Plans and Descriptions Procedures and General Information

S. The State Highway Access Code

T. Utility Manual
U. TMOSS Generic Format

V. Field TMOSS Topography Coding

W. Topography Modeling Survey System User Manual

X. Interactive Graphics System Symbol Table

Y. Corridor Optimization Guidelines

Z. Linking Planning and The National Environmental Policy Act Guidance

AA. Planning and Environmental Linkages Partnering Agreement

3 <u>CDOT PROCEDURAL DIRECTIVES</u> (using latest approved versions):

A. No. 27.1 Social Marketing Use of Web 2.0 & Similar Applications

B. No. 31.1 Web Site Development

C. No. 400.2 Monitoring Consultant Contracts

D. No. 501.2 Cooperative Storm Drainage System

E. No. 514.1 Field Inspection Review (FIR)

F. No. 516.1 Final Office Review (FOR)

G. No. 1217a Survey Request

H. No. 1304.1 Right-of-Way Plan Revisions

I. No. 1305.1 Land Surveys

J. No. 1601 Interchange Approval Process

KI. No. 1700.1 Certification Acceptance (CA) Procedures for Location and Design Approval

L. No. 1700.3 Plans, Specifications and Estimates (PS&E) and Authorization to Advertise for

Bids under Certifications Acceptance (CA)

M. No. 1700.5 Local Entity/State Contracts and Local Entity/Consultant Contracts and Local Entity/R.R. Contracts under C.A

N. No. 1700.6 Railroad/Highway Contracts (Under Certification Acceptance)

O. No. 1905.1 Preparation of Plans and Specifications for Structures prepared by Staff Bridge

Branch

4 <u>FEDERAL PUBLICATIONS</u> (using latest approved versions):

A. Manual on Uniform Traffic Control Devices

B. Highway Capacity Manual

C. Urban Transportation Operations Training – Design of Urban Streets, Student Workbook

D. Reference Guide Outline – Specifications for Aerial Surveys and Mapping by Photogrammetric Methods for Highways

E. FHWA Federal-Aid Policy Guide

F. Technical Advisory T6640.8A

G. U.S. Department of Transportation Order 5610.1E

H. Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques

I. ADAAG Americans With Disabilities Act Accessibility Guidelines

5 <u>TRANSPORTATION RESEARCH BOARD</u>:

A. Access Management Manual

APPENDIX B
PEL QUESTIONNAIRE

This questionnaire is intended to act as a summary of the Planning process and ease the transition from the planning study to a NEPA analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, and much (or all) of the history of decisions, etc, is lost. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study went, NEPA project teams often re-do work that has already been done. Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision cannot be considered viable alternatives, even if they reduce impacts to a particular resource. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage process.

Instructions: These questions should be used as a guide throughout the planning process, not just answered near completion of the process. When a PEL study (i.e. corridor study) is started, this questionnaire will be given to the project team. Some of the basic questions to consider are: "What did you do?", "What didn't you do?" and "Why?". When the team submits the study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist in determining if an effective PEL process has been applied before NEPA processes are authorized to begin. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background:

a. What is the name of the PEL document and other identifying project information (e.g. sub-account or STIP numbers)?

   b. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted.
   c. Provide a description of the existing transportation corridor, including project limits, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)
   d. Who was the sponsor of the PEL study? (CDOT, Local Agency, Other)
   e. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?
   f. Are there recent, current or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?

2. Methodology used:

. Did you use NEPA-like language? Why or why not?

   a. What were the actual terms used and how did you define them? (Provide examples or list)
   b. How do you see these terms being used in NEPA documents?
   c. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by CDOT and the local agency, with buy-in from FHWA, the Corps, and USFWS.
   d. How should the PEL information below be presented in NEPA?

3. Agency coordination:
. Provide a synopsis of coordination with federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.
    a. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved in the PEL study?
    b. What steps will need to be taken with each agency during NEPA scoping?
4. Public coordination:
. Provide a synopsis of your coordination efforts with the public and stakeholders.
5. Corridor Vision/Purpose and Need:
. What was the scope of the PEL study and the reason for doing it?
    a. Provide the corridor vision, objectives, or purpose and need statement.
    b. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?
6. Range of alternatives considered, screening criteria and screening process:
. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)
    a. How did you select the screening criteria and screening process?
    b. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)
    c. Which alternatives should be brought forward into NEPA and why?
    d. Did the public, stakeholders, and agencies have an opportunity to comment during this process?
    e. Were there unresolved issues with the public, stakeholders and/or agencies?
7. Planning assumptions and analytical methods:
. What is the forecast year used in the PEL study?
    a. What method was used for forecasting traffic volumes?
    b. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?
    c. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?
8. Resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:
. In the PEL study, at what level of detail was the resource reviewed and what was the method of review?
    a. Is this resource present in the area and what is the existing environmental condition for this resource?
    b. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?
    c. How will the data provided need to be supplemented during NEPA?
9. List resources that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.
10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.
11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.
12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?
13. Are there any other issues a future project team should be aware of?
. Examples: Utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

APPENDIX C
DEFINITIONS

Note: For other definitions and terms, refer to Section 101 of the CDOT Standard Specifications for Road and Bridge Construction and the CDOT Design Guide.

1	AASHTO-	American Association of State Highway & Transportation Officials
2	ADT-	Average two-way 24-hour Traffic in Number of Vehicles
3	AREA-	American Railway Engineering Association
4	ATSSA-	American Traffic Safety Services Association
5	AT&SF-	Atchison, Topeka & Santa Fe Railway Company
6	ADAAG-	Americans with Disabilities Accessibility Act Guidelines
7	BAMS-	Bid Analysis and Management Systems
8	BLM-	Bureau of Land Management
9	BNRR-	Burlington Northern Railroad
10	CA-	Contract Administrator. The CDOT Manager responsible for the satisfactory completion of the contract by the consultant.
11	CAP-	CDOT's Action Plan
12	CBC-	Concrete Box Culvert
13	CDOT-	Colorado Department of Transportation
14	CDOT/PM-	Colorado Department of Transportation Project Manager – The CDOT Engineer responsible for the day to day direction and CDOT Consultant coordination of the design effort (as defined in Section 2 of this document)
15	CDOT/STR-	Colorado Department of Transportation Structure Reviewer – The CDOT Engineer responsible for reviewing and coordinating major structural design
16	CDPHE-	Colorado Department of Public Health and Environment
17	CEQ-	Council on Environmental Quality
18	COG-	Council of Governments
19	COGO-	Coordinate Geometry Output
20	CONSULTANT-	Consultant for this project
21	CONTRACT ADMINISTRATOR-	Typically a Region Engineer or Branch Head. The CDOT employee directly responsible for the satisfactory completion of the contract by the Consultant. The contract administration is usually delegated to a CDOT Project Manager (as defined in Section 2 of this document).

22	C/PM-	Consultant Project Manager – The Consultant Engineer responsible for combining the various inputs in the process of completing the project plans and managing the Consultant design effort.
23	DEIS-	Draft Environmental Impact Statement
24	DHV-	Future Design Hourly Volume (two-way unless specified otherwise)
25	DRCOG-	Denver Regional Council of Governments
26	D&RGW-	Denver & Rio Grande Western Railroad
27	EA-	Environmental Assessment
28	EIS-	Environmental Impact Statement
29	ESAL-	Equivalent Single Axle Load
30	ESE-	Economic, Social and Environmental
31	FEIS-	Final Environmental Impact Statement
32	FEMA-	Federal Emergency Management Agency
33	FHPG-	Federal Aid Highway Policy Guide
34	FHWA-	Federal Highway Administration
35	FIPI-	Finding In Public Interest
36	FIR-	Field Inspection Review
37	FONSI-	Finding of No Significant Impact
38	FOR-	Final Office Review
39	GPS-	Global Positioning System
40	MAJOR STRUCTURES-	Bridges and culverts with a total clear span length greater than twenty feet. This length is measured along the centerline of roadway for bridges and culverts, from abutment face to abutment face, Retaining structures are measured along the horizontal distance along the top of the wall. Structures with exposed heights at any section over five feet and total lengths greater than a hundred feet as well as overhead structures including (bridge signs, cantilevers and butterflies extending over traffic) are also considered major structures.
41	MPO-	Metropolitan Planning Organization (i.e. Denver Regional Council of Governments, Pikes Peak Area Council of Governments, Grand Junction MPO, Pueblo MPO, and North Front Range Council of Governments).

42	MS4-	Municipal Separate Storm Sewer System
43	NEPA-	National Environmental Policy Act
44	NGS-	National Geodetic Survey
45	NICET-	National Institute for Certification in Technology
46	NOAA-	National Oceanic and Atmospheric Administration
47	PAPER SIZES-	See Computer-Aided Drafting Manual (CDOT); Table 6-13 and Table 8-1
48	PE-	Professional Engineer registered in Colorado
49	PM-	Program Manager
50	PLS-	Professional Land Surveyor registered in Colorado
51	PRT-	Project Review Team
52	PS&E-	Plans, Specifications and Estimate
53	PROJECT-	The work defined by this scope
54	ROR-	Region Office Review
55	ROW-	Right-of-Way: A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to a highway
56	ROWPR-	Right-of-Way Plan Review
57	RTD-	Regional Transportation District
58	T/E-	Threatened and/or Endangered Species
59	SH-	State Highway Numbers
60	TMOSS-	Terrain Modeling Survey System
61	TOPOGRAPHY-	In the context of CDOT plans, topography normally refers to existing cultural or man-made details.
62	UD & FCD-	Urban Drainage and Flood Control District
63	USCOE-	United States Army Corp of Engineers